METHOD OF AND APPARATUS FOR COMPRESSING AND UNCOMPRESSING IMAGE DATA

ABSTRACT OF THE DISCLOSURE

The present invention provides for a method of and apparatus for compressing and uncompressing image data. According to one embodiment of the present invention, the method of compressing a color cell comprises the steps of: defining at least four luminance levels of the color cell; generating a bitmask for the color cell, the bitmask having a plurality of entries each corresponding to a respective one of the pixels, each of the entries for storing data identifying one of the luminance levels associated with a corresponding one of the pixels; calculating a first average color of pixels associated with a first one of the luminance levels; calculating a second average color of pixels associated with a second one of the luminance levels; and storing the bitmask in association with the first average color and the second average color. In one embodiment, the color cell includes a matrix of 4x4 pixels, the bitmask includes 32-bits and each of the color values includes 16-bits such that a compression rate of 4-bits per pixel is achieved. The present invention is particularly applicable to compress texture data such that the texture data can be more efficiently cached and moved during texture mapping. In that embodiment, the present invention can also support the compression of luminance, intensity and alpha textures.

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